



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,463	12/06/2004	Koji Yokoi	SOHMEI.PT1012	1354

24943 7590 09/21/2007  
INTELLECTUAL PROPERTY LAW GROUP LLP  
12 SOUTH FIRST STREET  
SUITE 1205  
SAN JOSE, CA 95113

EXAMINER
----------

ABU ALI, SHUANGYI

ART UNIT	PAPER NUMBER
----------	--------------

1755

MAIL DATE	DELIVERY MODE
-----------	---------------

09/21/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



**DETAILED ACTION**

**(1)**

***Claim Rejections - 35 USC § 102***

***Claim Rejections - 35 USC § 103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1755

Claims 1,3, 6-7 and 9-14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U. S. Patent No. 4,882,133 to Saegusa.

It is noted that claim 3 is a product-by-process claim. Eventhough product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 77F.2d 695, 698,227 USPQ 964,966 (Fed. Cir. 1985) (citations omitted).

Regarding claims 1 and 3, Saegusa discloses a flaky mixed metal oxide cotaining titanium and silica (col. 2, lines 14 and 15). The flaky oxide particles have a thickness of 0.01-10  $\mu\text{m}$  and a length in the range of 1-100  $\mu\text{m}$  (col. 4, lines 64-68).

Although Saegusa is silent about the surface area and pore size as applicant set forth in claim1, it is the position of the examiner that since surface area and pore size are determined by the process condition, the claimed surface area and pore size would be inherent to of that of Saegusa. See MPEP 2112.

Since the mixed metal oxide composite is made by a process substantially identical with the process for making mixed metal oxide in the instant application. It is reasonably expected that the mixed metal oxide of Saegusa is similar to that of the instant application. If they are any difference, the difference must be minor and obvious. The burden is shifted to applicants to show the mixed metal oxide I is different.

Otherwise a prima facial case of anticipation, or in the alternative, of obviousness has been established.

Regarding claims 6-7 and 9-14, Saegusa discloses that the flaky metal oxide can be used in catalyst, cosmetic, coating composition, polymer resin, and paint. (col. 5, lines 10-33).

(2)

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 7-8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 4,882,133 to Saegusa, in view of WO 02/24153 to Nishihama.

This rejection is over the WO 02/24153 because the reference qualifies as prior art under 35 U.S. U. 102 (b). However, for convenience, the paragraph and line numbers of the English language equivalent U. S. Patent No. 6,949,248 will be cited below.

Regarding claims 1, 7 and 8, Saegusa discloses a silica-titania composite as applicant set forth in claim 1 used in cosmetic preparation, but they are silent about the weight percentage of the composite in cosmetic as applicant set forth in claim 8.

However, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to use the composite in the range as applicant set forth in claim 8, motivated by the fact that Nishihama, also drawn to using titania-silica composite in cosmetic, disclose that the 12% of the titania –silica composite used in the cosmetic preparation (table 4).

Regarding claim 17, Saegusa discloses a process of making flaky material, which can be mixed metal oxide such as titania-silica (col. 2, lines 14 and 15), by sol-gel process (col.1 lines 60-68 and col. 4, lines 59-60).

- 1) Coating liquid sol of metallic compound onto a smooth surface;
- 2) Applying heat to solidify the film;
- 3) Removing dispersion medium from the film;
- 4) Scraping off the film from the surface;
- 5) Heating the film in the temperature range according to the finished product uses.

But they are silent about the sol particle size as applicant set forth in claim 17.

However, Nishihama, also drawn to make titania-silica composite, disclose that the silica sol particle size is preferred in the range of 5-100nm and the titania sol particle is preferred in the range of 5-500 nm (col. 3, lines 10 and 29).

Therefore, it would have been obvious to one ordinary skill in the art at the time of invention to use the particle size as Nishihama taught in Saegusa method to make a porous flaky metal oxide, motivated by the fact that Nishihama discloses the silica sol size in the range of 1-100nm can smoothly invade the titania particles and titania sol

Art Unit: 1755

particle size in the range of 5-500nm has improved tendency to form a composite (col. 2, lines 12-13 and 31-32).

(3)

Claims 6, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 4,882,133 to Saegusa, in view of U.S. patent No. 5,500,216 to Julian et al.

Saegusa discloses a silica-titania composite as applicant set forth in claim 1 used in various application, but they are silent about using the composite in paper and ink.

However, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to use the titania-silica composite in ink and paper application, motivated by the fact that Julian et al., also dawn to using titania-silica composite (col. 3, lines 30-40), disclose that composite can be used in paper and ink preparation because their large surface area (col. 1, lines 60-67).

(4)

### ***Response to Arguments***

Applicant's arguments with respect to amended claims 1, 3, 6-17 have been considered but are moot in view of the new ground(s) of rejection.

(5)


**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuangyi Abu-Ali whose telephone number is 571-272-6453. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SA

  
J. A. LORENGO  
SUPERVISORY PATENT EXAMINER